Claims

1. An electrode assembly for the electrochemical treatment of liquids with a low conductivity, said assembly having electrodes (1, 2) which have a polymeric solid electrolyte (3) arranged between them, are pressed against one another by means of a pressure-exerting device (9, 10; 91) and are formed in such a manner that the liquid can flow through the assembly, characterized in that the pressure-exerting device (9, 10; 91) is supported on the electrodes (1, 2).

2. The electrode assembly as claimed in claim 1, characterized in that at least one electrode (1, 2) has a support which is coated with a doped diamond layer.

3. The electrode assembly as claimed in claim 2, characterized in that the support comprises metal.

4. The electrode assembly as claimed in claim 3, characterized in that the support is formed from an expanded metal grid (11, 21).

5. The electrode assembly as claimed in claim 2 or 3, characterized in that the electrodes (1, 2) have passage openings (42) to the polymeric solid electrolyte (3).

6. The electrode assembly as claimed in one of claims 1 to 5, characterized in that the solid electrolyte (3) has passage openings.

7. The electrode assembly as claimed in one of claims 1 to 6, characterized in that the polymeric solid electrolyte (3) only partially fills the interspace between the electrodes (1, 2).

8. The electrode assembly as claimed in claim 7, characterized in that the polymeric solid electrolyte (3) is arranged in strips, which are at a distance from another, in the interspace between the electrodes (1, 2).

9. The electrode assembly as claimed in one of claims 1 to 7, characterized in that the polymeric solid electrolyte (3) is arranged in area pieces (33), which are at a distance from one another on all sides, in the interspace between the electrodes (1, 2).

10. The electrode assembly as claimed in one of claims 1 to 9, characterized in that the polymeric solid electrolyte (3) is applied to one of the electrodes (2) as a surface layer.

11. The electrode assembly as claimed in one of claims 1 to 10, characterized in that it is formed from a stack of a plurality of electrodes (1, 2) and a plurality of polymeric solid electrolytes (3) which are arranged between two respective electrodes (1, 2), said electrodes and electrolytes being jointly pressed against one another by the pressure-exerting device (9, 10).

12. The electrode assembly as claimed in one of claims 1 to 10, characterized in that a plurality of individual assemblies which are formed from two respective electrodes (1, 2) and one polymeric solid electrolyte (3) are connected to the pressure-exerting device (9, 10) to form a stack.

13. The electrode assembly as claimed in one of claims 1 to 12, characterized in that the electrodes (1, 2) are flat.

14. The electrode assembly as claimed in one of claims 1 to 13, characterized in that the pressure-exerting device (9, 10) comprises a plurality of screw connections which are led through the electrodes and are made of insulating material.

15. The electrode assembly as claimed in one of claims 1 to 13, characterized in that the pressure-exerting device (91) is formed from material which is in the form of a wire, is wrapped around the electrodes (1, 2) and has ends which are twisted together in order to generate the pressure.

16. The electrode assembly as claimed in one of claims 1 to 12 and 15, characterized in that two electrodes (1, 2) are in the form of rods, and in that the polymeric solid electrolyte (3) in the form of a strip (34) alternately wraps around the electrodes (1, 2) under prestress.